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ILLINOIS BUSINESS REVIEW

A MONTHLY SUMMARY OF BUSINESS CONDITIONS FOR ILLINOIS

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HIGHLIGHTS OF BUSINESS IN OCTOBER

Evidence of an upswing in activity began to appear in October and early November. Automobile output advanced substantially over the September level as model changeovers were completed and large-scale production was resumed. Partly as a result of the increased demands of the auto industry, steel production also picked up substantially. For the first week of November, production was scheduled at 75.7 percent of capacity, the highest rate since mid-December, 1953. A month earlier the production rate had been 71 percent.

Retail sales were estimated at $14.6 billion for October. After allowance is made for seasonal factors, sales of retail stores were 1 percent below those for September but were unchanged from October, 1953. Lower sales for motor vehicle dealers and gains for department stores and service stations were the major changes from September.

Reflecting this increased activity, unemployment declined to 2.7 million and nonfarm employment rose. However, total employment remained unchanged because of the usual seasonal decline in farm work and the consequent departure of many farm family members from the labor force.

New Construction Records

About $3.5 billion of new construction was put in place in October. Although down seasonally from September, this was a record high for the month, 8 percent above the October, 1953, level. Both total private and total public construction were at an October peak. Private nonfarm residential building, valued at $1.3 billion, was the same as in September, and also set an all-time October high.

Construction activity in 1954 has risen almost steadily since the first of the year. The total for 1954 is now expected to reach $37 billion, well above the $35.3 billion expenditure in 1953, the previous record year. Total private building in the first ten months of 1954 amounted to $21.1 billion, 6 percent above 1953.

Homebuilding also continued at a high level, with 114,000 dwelling units started in September. This was up 3 percent from August and almost one-fourth above the year-earlier figure. Total housing starts in the first nine months of this year came to 906,500 units as compared with 866,400 starts during the corresponding period of 1953.

Manufacturers' Sales Advance

Shipments by manufacturers rose about 1 percent in September, after seasonal adjustment, recovering about one-third of the August decline. Increases were general, motor vehicles being the only major exception. Declines in this industry resulting from model changeovers virtually offset substantial gains in other durable goods industries.

The chief encouragement in the manufacturing picture comes from new orders, which rose in September to $24.2 billion, the highest rate (seasonally adjusted) since mid-1953. The largest increase occurred in durable goods, mainly as a result of new defense orders placed with transportation equipment companies. Among nondurables, there was a substantial advance in new business for textile producers.

Inventories at the manufacturing level continued to decline both before and after adjustment for seasonal factors. As in previous months, most of the decrease was centered in durable goods. At wholesale and retail levels, the book value of stocks increased, but less than usual at this time of year.

Personal Income Rises

The nation's personal income rose $2 billion in September to $287.4 billion at an annual rate. This was fractionally below the record $288.2 billion of July, 1953. The larger part of the month's advance occurred in proprietors' and rental income, which was up by $1.1 billion; small increases were general in other nonfarm income groups. Agricultural income rose 3.9 percent — the largest relative gain — to $15.8 billion.

Wages and salaries of workers in private industry were up slightly from August to $161.5 billion. Higher average hourly earnings were the chief element in a small advance in manufacturing payrolls. Government payrolls remained at $34.2 billion, with a decrease in Federal payrolls balancing increases in those of state and local governments.

Farm Prices Off Again

Prices received by farmers fell for the second month in succession during the month ended October 15, dropping 1.6 percent to the lowest level since early 1950. Chief factors in the decline were seasonally lower prices for hogs, an unusually sharp decrease in citrus prices, and lower prices for potatoes, corn, and cattle.

Prices paid by farmers declined only slightly during the same period. As a result, the parity ratio, which represents the division of prices received by prices paid by farmers, declined another index point to 87. Last October the parity ratio stood at 90.

THOSE UNEMPLOYMENT FIGURES · · · · By Stanley Lebergott · · · · Page 8

ILLINOIS BUSINESS REVIEW

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On (Mis)Interpreting Government Statistics

Statistics are funny. On paper they appear as cold, immutable facts, invariant to change. Yet when one begins to work with them and ascertain their meaning, they assume a degree of flexibility that is wondrous to behold. Disraeli's reputed remark to the effect that "there are three kinds of lies: lies, damned lies, and statistics" is perhaps a more gentle remonstration of this phenomenon than others which have made (it might also be noted that the categories are not mutually exclusive), but it is indubitably true that there can be, and often are, about as many different interpretations of a set of statistics as there are people doing the interpreting.

In part this is due to the differences in people's views and interests — not to overlook such important psychological influences as one's frustrations, fears, alter ego, and prenatal experiences. In part, also, it results from differences in the amount of information people have about the statistics. The latter is especially relevant in the case of government statistics on business trends, statistics which are of universal interest and which are given such wide publicity that everybody has the opportunity to do his own "statisticking."

At the same time, relatively little is said (or at least publicized) about the reliability of these statistics and about how to interpret them. Although this matter of interpretation is by no means an easy task, and often confuses experts as well as laymen, there are a few pointers which, if kept in mind, make it easier to interpret government statistics than to misinterpret them.

What's in Them

Basic to the problem of interpretation is a little knowledge about what is being interpreted. Without such knowledge it is impossible to judge the extent to which certain changes reflect real happenings and the extent to which they may be due to quirks in the data. Answers to questions like the following are therefore essential to intelligent interpretation:

1. How are the statistics defined? This matter of definition rivals the multiplicity of languages as one of the biggest stumbling blocks ever invented by man. Finding a man outside of Washington, D. C., who can really understand the President's annual budget reports is about as rare as finding an iced drink in the Sahara Desert. Changes in a business indicator may be the result of purely definitional circumstances. Thus a decline in those receiving unemployment insurance may simply indicate exhaustion of benefits under the law, and not a decline in unemployment. There is little justice in such matters either, for what invariably happens is that just after one has mastered the meaning of the various statistics, someone comes along and changes the definitions!

2. How were they collected? Data collected by a complete canvass of all pertinent establishments, such as the statistics on government expenditures, tend to be more reliable than data collected from a sample of establishments or estimated by indirect methods. Such data are not without errors, but especially when a relatively small number of establishments is involved, these errors are more subject to control. The sampling errors in such survey-based estimates as retail sales and consumer prices are generally very small, but errors due to faulty response and failure to respond can throw off these estimates considerably. Other factors also count, such as the bias in the consumer price index in the past caused by the omission of special sale prices. Statistics estimated indirectly, as from related data or as the difference between two other sets of statistics, often involve a considerable margin for possible errors.

3. When were the data collected? This is particularly important in the case of forecast statistics, such as the SEC-Department of Commerce estimates of planned capital expenditures. Developments between the time the data are collected and the time they are published can at times seriously limit their value. A similar danger exists with regard to such a series as unemployment, which is estimated for one month on the basis of data collected in the second week of the month. In times of rapid change, the representativeness of these data for a whole month may be in doubt.

4. Is any adjustment made for seasonal variations? Basically, there are two aspects to be considered. One is that many if not most business indicators are affected by seasonal influences. The mere fact that a business statistic is published without adjustment for seasonal variation does not mean that this factor has no influence and can be ignored. It is more likely to indicate that the effect may be a highly complex one or that the agency involved simply does not have the necessary funds for the task. Secondly, where figures have been adjusted for seasonal variations, acceptance with something other than maidenly innocence is not unwise. There is as yet no fully satisfactory method of distinguishing seasonal effects from others, and the techniques in current use rest to a large extent on personal judgment.

5. Are the figures expressed as absolute sums or as percentage changes? Percentage changes from one period to another are often more reliable than the actual figures themselves, because biases in the data tend to remain fairly constant and their effect is largely eliminated when comparisons are made over time. Thus, the level of department store sales may be continuously biased in a particular area by inadequate coverage of suburban stores. This bias is likely to have little effect on the change in sales from one month to the next, however, so monthly percentage change figures would hardly be affected.

Drawing Interpretations

Here are a few considerations to take into account in doing the interpreting (assuming that one has done his homework and obtained background information):

1. Make some allowance for errors in the figures. If

(Continued on page 6)

THE CHICAGO BOARD OF TRADE

As the largest contract grain market in the world, the Chicago Board of Trade has had a major role in the remarkable growth achieved by American agriculture. The exchange handles billions of bushels of grain annually and promotes uniform grain prices over the entire country.

Organized in 1848 as a voluntary association of 82 businessmen who confined their activities to cash grain trading, it has expanded to 1,422 members representing 37 states and 12 foreign countries. The Exchange neither buys nor sells grain itself, but confines its activities to providing services and facilities for those who wish to do so. It is a public market place, the nerve center of a marketing system operating under Federal authority, where buyers and sellers located all over the world trade through their agents, the Board of Trade members.

The men on the trading floor conducting the business are all members of the Board of Trade, and gather daily to buy and sell commodities according to their needs and current market conditions. To the visitor, the trading carried on by hand signals and shouting along with the scurrying of messengers appears to be a bedlam of disorganization. However, to those who are familiar with Exchange procedures it is a prime example of rapid-fire business efficiency matured by 106 years of operation.

Functions of the Exchange

The services performed by the Exchange for farmers, processors, and consumers are numerous and of vital importance to our economy. It provides a central meeting place for buyers and sellers, furnishes up-to-the-minute price quotations, establishes standard grades of quality, and supplies a forward pricing system (hedging) that is invaluable to customers of the Exchange.

When a customer wishes to make a purchase of a specific commodity, he places his order with a member brokerage firm whence it is transmitted to the Exchange member of the firm who is on the trading floor of the Exchange. If it has been specified that immediate delivery is desired, the buyer makes his selection from among the samples of grain displayed in small brown paper bags on the tables of the cash market, located under the north windows of the hall, opposite the visitors' gallery. These samples are from every carload of grain arriving in Chicago and have been graded by the Illinois State Grain Inspection Department.

If a customer has specified that a future delivery is desired, the buyer commences negotiations in the futures market with other members of the Exchange. The futures contract is entered into verbally and later confirmed in writing, calling for the delivery of a specified number of bushels of a certain grain of commercial quality, during a definite month, and at an agreed price.

All futures bidding is carried on by hand signals and shouting as provided for by rules and regulations of the Exchange. In addition to using signals for price and amounts, traders also use the position of the hands to show whether they are buying or selling. The palm of the hand held up and inward is a bid to buy, while the palm held outward is an offer to sell. Fingers held vertically indicate the quantities traded, with each finger representing 5,000 bushels, while price signals are made by fingers held horizontally, each finger representing one-eighth of a cent.

Every trader lists the transactions he makes on a trading card, one side of which is printed in blue for purchases and the other in red for sales. Each notation, representing a trade, shows the quantity and kind of grain, the maturity month of the contract, the price, from whom purchased or to whom sold, and the initials of the broker. These trading cards constitute the original record and are as binding as a formal contract.

Hedging and Speculation

Hedging is a form of business insurance that minimizes the risk involved in carrying raw material inventory supplies. Successful hedging is in itself a scientific market operation, but in its basic form it is a relatively simple financial maneuver. In order to protect himself against changing price levels, the trader simultaneously sells as much in the futures market as he buys in the cash market.

To illustrate, assume that a flour miller buys 1,000 bushels of wheat in the cash market for immediate delivery on November 1 at $2.25 per bushel, paying $2,250. At the same time he sells 1,000 bushels for future (May) delivery at $2.25 per bushel. Let us say that in January he sells the flour-equivalent of the 1,000 bushels of wheat he has been holding in his elevator, basing his flour price on the current market price which is, say, $2.00 per bushel, thereby receiving $2,000. At the same time he buys 1,000 bushels of wheat at $2.00 per bushel to cover his earlier sale on the futures market. The decline in the price of wheat resulted in a loss of 25 cents per bushel in the cash transaction, but this loss was offset by a profit of 25 cents per bushel in the futures purchase. If the miller has no immediate buyer for flour, he may not wish to process the wheat, so he may hold it until May and deliver it on his futures (May) contract.

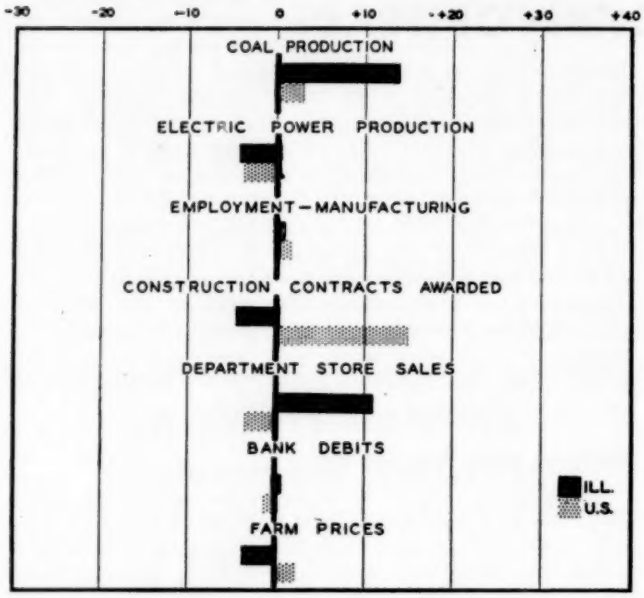
Speculation in commodities serves a useful purpose in that it removes an element of uncertainty by transferring the risks of ownership during a period in which price declines might occur. Speculators buy and sell in the hope of profiting from the rise and fall of commodity prices, and in so doing absorb the orders placed by traders in their process of hedging. Without speculation, it would not be possible to place or remove hedges with the ease obtainable only in a market having such a high degree of liquidity.

In this manner, the Chicago Board of Trade plays an essential role in our economic system. With the gradual expansion of agricultural markets and a trend toward an even more rapidly increasing farm output, the future role of the Exchange seems well established and is suggestive of increased responsibility, importance, and growth.

STATISTICAL SUMMARY OF BUSINESS ACTIVITY

SELECTED INDICATORS

Percentage changes August, 1954, to September, 1954



ILLINOIS BUSINESS INDEXES

Item	September 1954 (1947-49 =100)	Percentage Change from August 1954	Percentage Change from Sept. 1953
Electric power[1]	174.8	− 4.2	+ 5.8
Coal production[2]	73.9	+13.9	− 3.3
Employment—manufacturing[3]	101.8	+ 0.9	− 9.5
Weekly earnings—manufacturing	132.5[a]	+ 0.2	− 0.6
Dept. store sales in Chicago[4]	107.0[b]	0.0	+ 4.9
Consumer prices in Chicago[5]	117.4	− 0.3	+ 0.7
Construction contracts awarded[6]	210.0	− 4.7	+26.2
Bank debits[7]	140.9	+ 0.3	− 2.1
Farm prices[8]	96.2	− 3.5	− 8.2
Life insurance sales (ordinary)[9]	155.0	+ 1.6	+11.0
Petroleum production[10]	100.5	− 2.7	+12.3

[1] Federal Power Commission; [2] Illinois Department of Mines; [3] Illinois Department of Labor; [4] Federal Reserve Bank, 7th District; [5] U. S. Bureau of Labor Statistics; [6] F. W. Dodge Corporation; [7] Federal Reserve Board; [8] Illinois Crop Reports; [9] Life Insurance Agency Management Association; [10] Illinois Geological Survey.
[a] August data; comparisons relate to July, 1954, and August, 1953. [b] Seasonally adjusted.

UNITED STATES MONTHLY INDEXES

Item	September 1954	Percentage Change from August 1954	Percentage Change from Sept. 1953
	Annual rate in billion $		
Personal income[1]	287.5[a]	+ 0.7	+ 0.4
Manufacturing[1]			
Sales	284.4[a]	+ 0.9	− 4.8
Inventories	43.6[a, b]	− 0.7	− 6.2
New construction activity[1]			
Private residential	15.6	+ 0.6	+18.6
Private nonresidential	13.7	− 1.2	+ 3.3
Total public	14.1	+ 0.5	+ 1.5
Foreign trade[1]			
Merchandise exports	13.8[c]	−10.9	− 3.1
Merchandise imports	9.9[c]	+ 0.4	− 1.8
Excess of exports	3.9[c]	−30.6	− 6.0
Consumer credit outstanding[2]			
Total credit	28.0[b]	+ 0.3	+ 0.1
Installment credit	21.3[b]	+ 0.1	− 0.0
Business loans[2]	21.0[b]	+ 1.2	− 9.0
Cash farm income[3]	36.0	+16.8	− 6.0
	Indexes (1947-49 =100)		
Industrial production[2]			
Combined index	124[a]	0.0	− 6.8
Durable manufactures	135[a]	0.0	−11.2
Nondurable manufactures	116[a]	+ 0.9	− 0.9
Minerals	109[a]	0.0	− 7.6
Manufacturing employment[4]			
Production workers	100[a]	+ 0.2	−10.6
Factory worker earnings[4]			
Average hours worked	99	0.0	− 0.5
Average hourly earnings	136	+ 1.1	+ 1.1
Average weekly earnings	136	+ 1.1	+ 0.6
Construction contracts awarded[5]	237	+15.4	+ 4.2
Department store sales[2]	108[a]	− 3.6	+ 0.9
Consumers' price index[4]	115	− 0.3	− 0.4
Wholesale prices[4]			
All commodities	110	− 0.5	− 0.9
Farm products	94	− 2.3	− 4.6
Foods	106	− 0.8	− 1.0
Other	114	0.0	− 0.3
Farm prices[3]			
Received by farmers	91	− 2.0	− 4.3
Paid by farmers	112	− 0.7	+ 1.1
Parity ratio	88[d]	− 1.1	− 5.4

[1] U. S. Dept. of Commerce; [2] Federal Reserve Board; [3] U. S. Dept. of Agriculture; [4] U. S. Bureau of Labor Statistics; [5] F. W. Dodge Corp.
[a] Seasonally adjusted. [b] As of end of month. [c] Data are for August, 1954; comparisons relate to July, 1954, and August, 1953. [d] Based on official indexes, 1910-14 = 100.

UNITED STATES WEEKLY BUSINESS STATISTICS

Item	1954					1953
	Oct. 23	Oct. 16	Oct. 9	Oct. 2	Sept. 25	Oct. 24
Production:						
Bituminous coal (daily avg.) thous. of short tons	1,481	1,382	1,381	1,332	1,356	1,543
Electric power by utilities mil. of kw-hr.	9,033	9,117	9,193	9,158	9,072	8,306
Motor vehicles (Wards) number in thous.	59.3	57.4	79.1	81.0	69.9	142.7
Petroleum (daily avg.) thous. bbl.	6,078	6,100	6,057	6,050	6,089	6,130
Steel 1947-49=100	110.1	108.0	105.3	104.5	101.9	133.3
Freight carloadings thous. of cars	746	721	703	722	710	804
Department store sales 1947-49=100	123	119	118	110	117	113
Commodity prices, wholesale:						
All commodities 1947-49=100	109.4	109.7	109.6	109.7	109.9	110.2
Other than farm products and foods 1947-49=100	114.6	114.6	114.6	114.5	114.4	114.6
22 commodities 1947-49=100	90.4	90.3	90.8	90.4	90.7	87.1
Finance:						
Business loans mil. of dol.	21,126	21,195	21,102	21,015	21,005	23,112
Failures, industrial and commercial number	229	152	230	192	212	185

Source: *Survey of Current Business, Weekly Supplements.*

RECENT ECONOMIC CHANGES

Unemployment Down

Unemployment in October declined by 358,000 to 2.7 million, its lowest level since the start of the year. However, there was virtually no change in the number of employed workers because of a contraction of the labor force largely brought about by an exodus of farm women and children from the labor force as the harvest period neared completion.

The decline in farm employment was offset by increased nonagricultural employment. This rose by about 300,000 in October to 54.9 million, one of its highest levels since last December. Census data in thousands of workers are as follows:

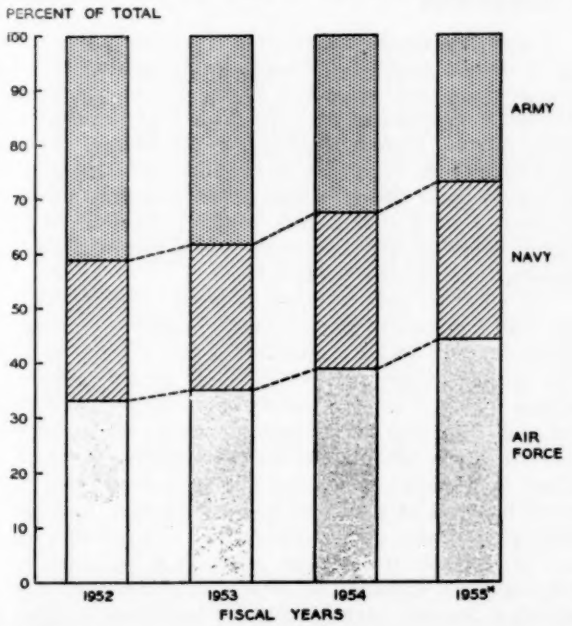
	October 1954	*September 1954*	*October 1953*
Civilian labor force	64,882	65,243	63,543
Employment	62,141	62,144	62,242
Agricultural	7,239	7,527	7,159
Nonagricultural	54,902	54,617	55,083
Unemployment	2,741	3,099	1,301

Defense Outlays Lower

Department of Defense expenditures for procurement and construction in the fiscal year ending next June are expected to total about $38 billion. This is $5 billion below fiscal 1954 and $9 billion below 1953, the post-Korean peak year. Despite the decline of nearly a fifth from 1953, defense expenditures in the current fiscal year will be nearly double those in fiscal 1951, when the Korean remobilization began.

Placing of new orders for military supplies came to a virtual halt about a year ago and remained fairly low through the second quarter of 1954. However, new contracts have been let in increasing volume in the past several months. The Defense Department plans to place $16 billion to $18 billion in new orders before the end of the fiscal year.

DEPARTMENT OF DEFENSE EXPENDITURES



*Estimated.
Source: U. S. Department of Defense.

As shown by the accompanying chart, the largest share of defense expenditures during fiscal year 1955 will be for Air Force procurement and construction. In fact, since fiscal 1952 the Army and the Air Force have about traded places in their relative importance to total defense spending. Three years ago 41 percent of total expenditures were made by the Army compared with 33 percent by the Air Force. In the current fiscal year Army expenditures account for only 26 percent of the expected total compared with 44 percent for the Air Force. The Navy has also gained in relative importance as expenditures moved up from 26 percent three years ago to 29 percent of the total this year.

Machine Tool Orders Up

The machine tool picture brightened in September, as new orders received by the industry increased 21 percent to $53.1 million. Except for June, this represented the largest volume of new business placed in nearly a year.

Shipments also increased in September to 213.6 percent of the 1947-49 average, up 5 percent from August. As a result of the greater increase in new orders, backlogs remained at the August level of 3.2 months' work at the current operating rate. September marks one of the few months that backlogs have not declined since the post-Korean high of almost two years' work in September of 1951.

Foreign Grants and Credits Decline

United States net grants and loans to foreign countries totaled $5.2 billion in fiscal 1954, about 20 percent less than in the previous fiscal year. Transfers of military supplies and services accounted for $3.5 billion of the 1954 total with shipments in the June quarter amounting to over $1 billion, the result of stepped up assistance to Indo-China. Nonmilitary transfers, which include relief, development, technical assistance, and all cash transfers except contributions to the unilateral construction program of NATO, totaled $1.6 billion for the fiscal year, a postwar low.

For the first time since before World War II, net transfers of nonmilitary items to Western Europe ($709 million) were less than those to other areas ($940 million). This was mainly the result of increased grants to Pakistan and Iran and loans to Brazil and Japan. Shipments to Asia and the Pacific more than doubled in the second half of the fiscal year.

Since the end of World War II the United States has made available over $50 billion (including $3.4 billion to the International Monetary Fund and the International Bank) to assist other countries. About half of this total was transferred prior to the outbreak of hostilities in Korea with only 5 percent of pre-Korean assistance in the form of military aid. Since Korea more than half of total net grants and credits have been for military aid and the amount given for other than military aid has declined each successive year.

Business Failures Decline

Fewer businesses went bankrupt in September than in any other month of this year. Total failures dropped 10 percent to 819 in September, but were almost a fifth higher than in September of last year when the year-long recession got under way.

Failures in the first nine months of 1954 averaged 929 a month, 30 percent more than in the corresponding 1953 period. The biggest increase from last year, 45 percent, was in failures of trade firms, which have accounted for 60 percent of total failures so far this year. Thirty-five percent more manufacturing and 34 percent more commercial and construction firms went out of business this year than last.

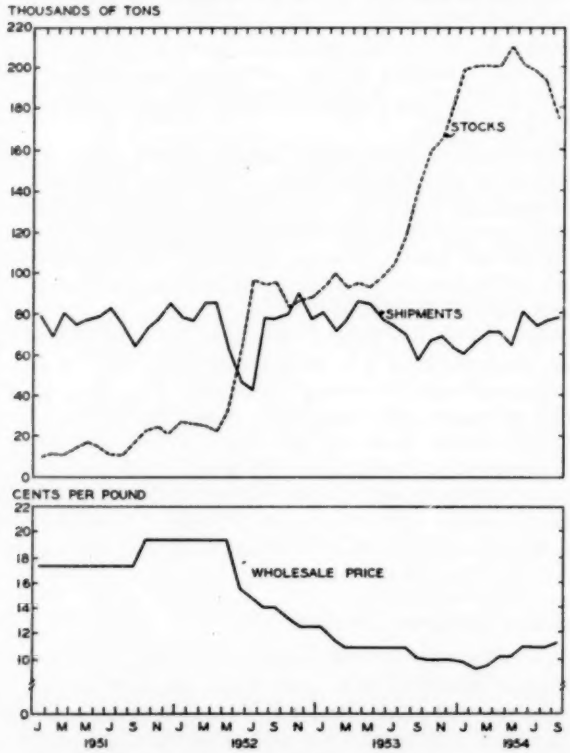
Zinc Stocks Drop

The zinc industry may be getting out of the doldrums. Inventories of slab zinc dropped nearly 20 percent in September. The sharp decline resulted from increased shipments — partly to government stockpiles — and from a strike-induced decline in production from 71,800 tons in August to 60,100 tons in September.

As shown by the accompanying chart, zinc inventories have been reduced substantially from their peak of 209,800 tons in May. The five-month drop is the sharpest and most prolonged that has occurred since 1950 when shipments exceeded production for most of the year. The doubling of stocks that occurred between the third quarter of last year and May, 1954, reflected mainly the lower level of business activity and reduced demand for zinc by the steel industry.

Since about mid-year zinc shipments have increased as the government began to buy for stockpiling. At that time the government indicated it would purchase about 300,000 tons of zinc during fiscal year 1955. This is equivalent to over a third of the industry's past 12 months' output. Although no official figures are available, it is reported that the government will buy 100,000 tons by the end of December. With shipments up, zinc prices have risen somewhat. In February the wholesale price at St. Louis had fallen to 9.4 cents per pound. In September it was up to 11.4 cents.

ZINC SHIPMENTS, STOCKS, AND PRICES



Source: U. S. Department of Commerce.

On (Mis)Interpreting Government Statistics

(Continued from page 2)

business sales are reported to have risen 0.3 percent in one month, don't begin to plan for a new wave of prosperity; the estimate could have been the result of sampling variations or differential response rates. (Alternatively, it could be a preliminary figure "subject to revision at a later date.")

2. Make an additional allowance for seasonal effects if the data are not adjusted for seasonal variations. This is not easy, but can be done roughly by examining changes between corresponding periods of previous years in which no highly disturbing factors, such as wars, were present. If the data are marked "adjusted for seasonal variation," it is a good idea anyway to allow a margin for unknown errors in the adjustments.

3. Compare the indicated changes in the statistics with other recent changes in the same data. If industrial production declines suddenly for no apparent reason after having risen for the past six months, some error or bias may well be the cause. Changes in business conditions are not haphazard. Comparison of the year-to-year change in the current figure with corresponding changes for earlier data is also useful in detecting quirks in the data.

4. Check the consistency of the current figure with that of other business indicators for the same period. If department store sales go down at a time when all categories of retail sales are reported higher, something may well be amiss. It is a good idea to assess the different business indicators in relation to each other, and thereby arrive at a unified picture of business trends, as is aptly noted by this issue's special article by Mr. Lebergott.

5. Make allowance for developments since the figures were compiled. Some statistics are released within a few days of the period covered; others, only two or three months after the end of the period. As noted earlier, later developments might alter substantially the validity of the figures. In other cases, developments might have been so rapid that figures two or three months old may possess little significance for current trends.

A Suggestion

Following these pointers will not qualify one to hang out a shingle as a "business analyst," but they will make it easier to make sense out of the mass of government statistics on business activity. The fact that these statistics contain numerous pitfalls is no fault of the people compiling them (contrary to popular belief, statisticians do not do these things deliberately). It reflects rather the inadequacy of the resources at their disposal to handle such a huge task, a limitation which is not likely to be remedied in the near future.

In view of this fact, it appears desirable for the users of the data to have a ready source of information about possible pitfalls and limitations of the statistics. This could be accomplished if some central government agency were to issue a simply written handbook listing for each statistical series such information as: definition, how compiled, when compiled and where, seasonal and other adjustments (and how made), conceptual differences between this and related series, and, last but not least, a discussion of possible errors, with a rough evaluation of probable magnitudes where feasible. Such a publication would not only be of service to users of business statistics but, by highlighting inadequacies in the data, might help secure support for more resources. It might even convince people that statisticians are human. RF

BUSINESS BRIEFS

PUBLICATIONS AND DEVELOPMENTS OF BUSINESS INTEREST

Eggs Electronic

A machine that can size, sort, shell-protect, count, weigh, and package eggs is a recent product of the Food Machinery and Chemical Corporation, San Jose, California. The machine, an electro-mechanical device, remembers the weight and quality of each egg and drops it in the proper carton. After each carton is full, it is automatically closed and dated. It is expected that one inspector can process up to 57 cases, containing 30 dozen eggs, a day with the use of this machine, whereas under present methods that average is about 25 cases.

The manufacturer plans to lease the machines on a per-case-of-eggs-processed basis rather than sell them. The rentals will be on a sliding scale, with per-case rent decreasing as the number of cases processed increases.

Pop Pills

The era of taking pills instead of eating a whole meal is getting closer. The latest development is a pill for making soda pop. The product is called Pop Drops and is available in root beer and fruit flavors. One tablet will flavor and carbonate an 8-ounce glass of water.

The pills were invented by Dr. Robert Bouthilet, a chemist, and are marketed by the Pop-Drop Beverage Company of St. Paul, Minnesota. A bottle of the tablets retails at 29 cents.

Consumer Behavior

Recently published by the New York University Press is a book on the buying habits of the American consumer. *Consumer Behavior* is a collection of articles by leading economists, sociologists, and psychologists, representing talks given at the first two annual conferences of the Committee for Research on Consumer Attitudes and Behavior. Among the topics are "The Consumer in the New Suburbia," "The Choices Consumers Make," and "The Autonomy of the Consumer." The price of the volume is $4.00.

Whither the Weather

The Whiting Corporation of Harvey, Illinois, is revolutionizing the New York International Airport. By the first of next year some passengers will alight from the plane into the terminal without ever being hit by a snowy blast or a drop of rain. The "Loadair," a flat platform on tracks, will bring the plane from the runway to the terminal dock so passengers and baggage can be unloaded directly into the building. It is hoped that this system will allow for speedier handling of baggage and that eventually it will be possible to service the planes directly from fixed equipment. This might dispense with most of the mobile equipment now on the fields.

Mechanical Payrolls

An accountant and former revenue agent has turned his inventive talents toward the problems of computing payrolls. The result is a machine reported to give greater speed and accuracy at lower costs.

Harry A. Wylie of the Wylie-Smith Corporation of San Francisco is the inventor. He has incorporated the special charts for computing the deductions of withholding tax, state unemployment insurance, and Social Security on 20-foot rolls that rotate inside the machine at the turn of a knob. By knowing the number of hours worked, the pay rate, and the number of dependents, a series of manipulations of the knobs will give the operator the gross pay, deductions, and net pay.

The machine has only six moving parts, and it is about the size and shape of an adding machine. According to Mr. Wylie, 30 rolls will make the machine adaptable to any payroll situation in the United States. They will handle persons having as many as eight dependents and making as much as $200 a week or $1,000 per month.

Getting Cold Feet?

Christmas is bringing its usual crop of new and different products aimed at the "man who has everything." The latest in the Sears catalog are electric socks, designed to keep you warm in any climate. The battery is attached to the belt, and wires connected to the tops of the socks can be plugged in whenever the wearer's feet become cold. The socks sell for $9.95 a pair.

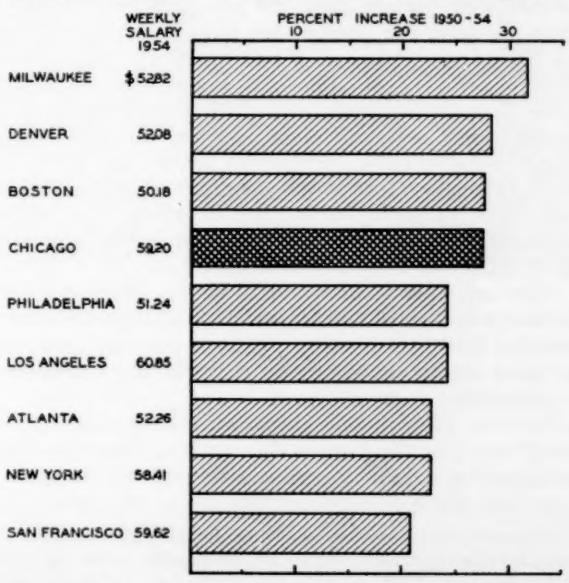
Salaries of Women Office Workers

The recent publication by the Bureau of Labor Statistics of an index of average salaries for women office workers in nine major cities provides employers and office workers alike with standards of comparison for their own changes in salaries and wage rates.

The index is published for those nine cities believed to have the greatest concentration of office workers. As the chart indicates, the variation in salary growth among areas in the past five years is comparatively small. It is significant, however, that average salaries in 1954 in three of the four areas registering the smallest growth continued relatively high, whereas salaries in the three cities leading in rate of increase were still comparatively low.

Differences between salary increases granted in manufacturing industries and in other industries were slight, as were differences between office workers and other types of workers.

SALARIES OF WOMEN OFFICE WORKERS



Source: U. S. Department of Labor.

THOSE UNEMPLOYMENT FIGURES[1]

STANLEY LEBERGOTT, U. S. Bureau of the Budget

The rise in unemployment during the fall and winter of last year has brought a flurry of discussion about the methods used to measure unemployment. In particular, this discussion has centered on the reliability of the monthly estimates of unemployment put out by the United States Bureau of the Census. Three questions stand out in such discussion. They are:

1. Are the figures any good?
2. What do they mean?
3. How can they be improved?

The Figures

Questions on how good the Census figures are go back particularly to the end-of-1953 change in the Census sample that is used to collect data on labor force, employment, and unemployment. The data are obtained by a door-to-door survey of 25,000 households in all parts of the country, information being secured on the labor force status of all persons 14 years or older in the week including the 8th of the month (e.g., November 7-13). The group covered reflects the distribution of the entire labor force in the several regions as well as the different industries and occupations in which Americans work. This sample had been improved over the 1940-52 period but a major expansion was not possible until funds were made available in mid-1953. In the fall of 1953, therefore, a new sample was readied. The number of areas surveyed was to be tripled, rising from 68 to 230. The change was aimed at reducing the sampling errors significantly without increasing the current running costs. This was to be achieved by spreading the survey more widely throughout the country, particularly in open country and farm areas. The new survey covers 20 counties in Illinois, for example, where it had previously covered only four.

Not surprisingly a better sample gave different results in the transition period when two samples were both surveyed. Training new enumerators and difficulties in keeping an eye on enumerators in areas which were being closed out helped contribute to the differences. But for most readers of the *Illinois Business Review* these are technicalities, because both the new and the old samples led to the same two conclusions as to business conditions. (1) Both series indicated a clear, a sharp, and — for the postwar period — an almost unprecedented rate of increase in unemployment. (2) Both series indicated that unemployment was still at one of the low points in our history — for even in the month when they were most apart (January, 1954) one reported 4 percent of the labor force unemployed and one reported 5 percent unemployed. These facts are brought out in the accompanying chart.

Now unemployment is not at all the simplest thing in the world on which to run a statistical survey. And the fact that two substantially different samples gave much the same results tends to give considerable confidence in the reliability of these series.

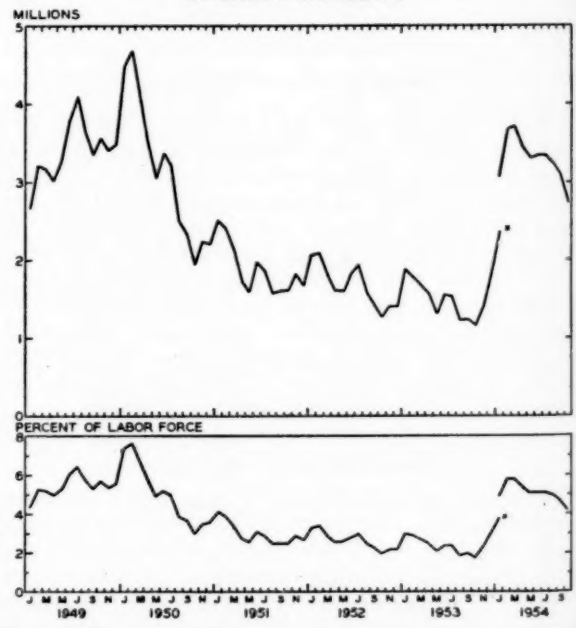
On the other hand, improvements are still needed. The Bureau of the Census has recently begun a tighter check on the reliability with which enumerators do their work, and further improvements are certainly in order. Moreover, getting data from individual families always raises problems — whether the survey is of brand preferences, a study of polio incidence, or a labor force survey. This is so because certain individual respondents will vary their reports depending on who questions them, the conditions under which the survey is made, even how they happen to feel at the moment, and so on.

The basic issue for those using the data is whether despite such minor variations it has made sense over the past 14 years. And experience does indicate that the Census survey reports on labor force, employment, and unemployment (a) provide detailed series that are consistent with each other; (b) make sense when compared with other key series such as production, unemployment insurance claims, and so on; and (c) are subject to much smaller revisions than are to be expected in other essential series such as inventories, business sales, and consumer credit.

What They Mean

The Census unemployment series reports the trend in the number of persons who are totally unemployed for the particular survey week each month. They are persons who did not work for pay or profit in that week and were classed as looking for work. The Census total for unemployment does not allow for the changing number of persons on short work weeks, for example, nor does it try to measure the total number of man-hours of work which might have been worked if a special set of pay and working conditions were made available to each person in the population. Indeed there are a considerable number of changes in the definitions which might be considered, many of them currently being reviewed by a Federal interagency committee to see what improvements they might make in the definition.

UNEMPLOYMENT



* New series started January, 1954.
Source: Bureau of the Census.

[1] The opinions expressed herein are personal and do not necessarily reflect those of the agency with which the writer is connected.

But the important point for analysis of unemployment trends is that most of the suggested changes would make little difference in the over-all trends in total unemployment. Add a group here, take out a group there, add in some women workers who might take a high paid part-time job, or arbitrarily exclude older workers on the premise that they should not be in the labor force — make any of a dozen changes which have been suggested and the resulting series would still move much the same as the present series. The reason, of course, is simple. The major group in unemployment at any time is composed of males aged 20-64 who are actively looking for work. This group would be included by any definition. Moreover, past experience indicates that the trend for other groups is closely correlated with that for this group.

There is a second, no less important, fact to emphasize. The meaning of the unemployment figures is only partly to be found in the mere total for unemployment — as critical as that is. What the unemployment figure really means can be understood only after the related detail in the labor force data is examined and trends in production and other data are compared.

A rise in unemployment means one thing if it is fairly well concentrated among adult males — quite another thing if it represents mostly youngsters entering the labor force in the summer. It means one thing if it is associated with a continuing decline in hours worked — and another if hours change little. It means one thing if it is accompanied by an increase in the number of women and older workers who leave the labor force — and another if the size of that group remains much the same. (Particularly valuable insights can be gotten by seeing where the unemployed came from: Are they persons who were unemployed last month? Are they new persons in the labor force? Did they have jobs last month? Such data are available in Census records but are not published each month, as they should be.) A wealth of data is made available monthly in the Census report on the labor force. By making full use of it, understanding of what a mere change in the total means, significant though that may be, can be increased immeasurably.

Then, too, the usefulness of unemployment data becomes much greater when they are related to other series. Check the changes in unemployment against changes in agricultural machinery employment as reported by the Bureau of Labor Statistics, in automobile production as reported by the Federal Reserve Board, or in retail sales as reported by the Census Bureau and a clearer idea is obtained of why unemployment is changing, and by how much unemployment is rising (or not rising) in response to certain major economic events. By relating the change in total unemployment to the data on insured unemployment in particular areas, more is learned about where unemployment is accumulating. While the unemployment figure means a good deal by itself, therefore, it means considerably more when it is compared with changes in labor force components, in production, sales, and so on.

How They May Be Improved

If unlimited amounts of money were available to spend on improving the unemployment series, a wide variety of changes could be suggested and would be useful. There are a few changes, however, for which the pay-out ratio would be rather high.

The first would be to get the facts on monthly changes in income and spending for families in the labor force — data which would be invaluable for policy and for marketing purposes. To what extent does a general decline in spending result from declines in spending by the unemployed only? To what extent are even those who are still employed retrenching? Figures on spending gathered in connection with figures on the labor force status of families would be of decisive value in answering such a basic question. To what extent have the unemployed exhausted their unemployment benefits? Where the head of the family is unemployed, is family income nevertheless being maintained because other family members are working? Answers to these questions would be useful for policy purposes, for understanding present and forecasting future market trends.

A second change would be to make surveys monthly, rather than at quarterly intervals, on the group of persons who are partially unemployed, namely, persons going on short work weeks because work is slack or for other economic reasons. That group has been classed as employed since the survey began in 1940 — yet there is some point in separating it for special classification. The number in this group is particularly sensitive to economic changes and is helpful in forecasting future trends in unemployment.

Less urgent, but of value to the business analyst, would be two other changes. The first would be to stop classifying as employed, and shift to the unemployed, those persons who have been laid off temporarily. If we are concerned with the onset of changes in the general level of business, this group should be included because it is particularly sensitive, measuring somewhat in advance the trends which show up in unemployment. If broad problems of welfare are concerned, this group certainly belongs with the unemployed. They fall within the present definitions of unemployment for they are seeking work (each in a particular job); and they will usually return to their respective jobs as soon as the jobs become available. The fact that they do feel they have a claim to a job is essential information which should be shown, so that we can distinguish among the unemployed those without a job and those on definite layoff.

A further desirable change in the Census reports on the labor force would provide estimated weekly figures on the percent change in the Census unemployment total from the previous monthly report. Policy decisions in government and business must be made from day to day on the basis of available facts. They cannot always be spaced out to the monthly intervals at which some of our statistics become available. Substantial use is therefore made of the weekly data on insured unemployment. Yet the ordinary business analyst cannot do the kind of job in adjusting these figures that must be done. Only the official agencies can do a full job of allowing for the fact that trends in the insured unemployed may not reflect the trend for all unemployed, allowing for exhaustion of benefits even among the insured, and allowing for necessary quirks in the administrative reporting of these figures.

Possibly, progress in this direction could be made by enlarging the present Census sample and obtaining reports on unemployment from a subsample at weekly intervals. The results will be rough, but they will be preferable to what most individual analysts can and do attempt on their own initiative.

Whether or not these changes are made it is well to remember, in summary, that our unemployment estimates are certainly among the most essential and reliable statistical series that we have for charting the course of the economy.

LOCAL ILLINOIS DEVELOPMENTS

With the exception of seasonal movements, the Illinois economy in September remained on a fairly even keel. Only two indicators changed more than 5 percent during the month of September, and both movements were attributed to seasonal influences. Coal production jumped 13.9 percent above August, though still below the corresponding 1953 month, and department store sales in Illinois surged upward by 11 percent. Department store sales were slightly above year-ago levels in the State as a whole, although some areas reported declines.

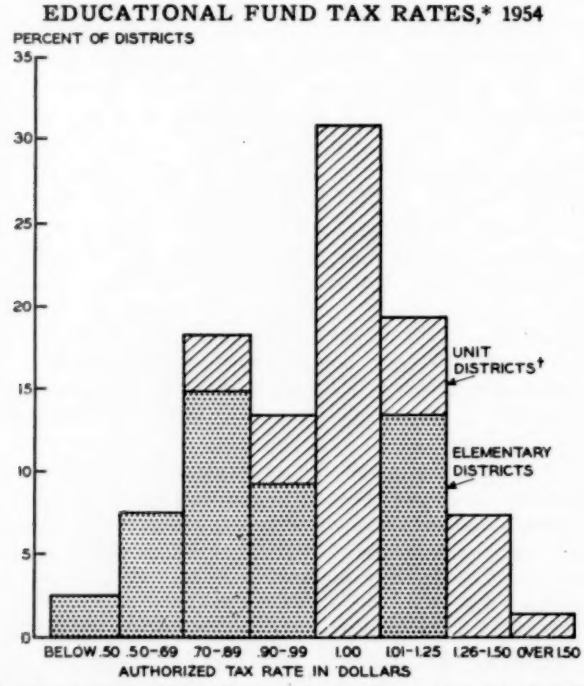
Business loans and steel production were up during September, but well below 1953. Petroleum production declined in September for the second month in a row, but it continued at a rate substantially higher than a year ago. Construction contracts awarded were also off from August, but were more than 25 percent higher than in September, 1953. Farm prices were the only indicator to register appreciably below both last month and year-ago levels.

Financing Elementary Education

Since 1946 the number of pupils in elementary schools in the United States has increased by almost one-third. The pressure in Illinois schools has been as great as elsewhere, resulting in rising needs for funds for schools and teachers.

The chart below gives the authorized rate of taxation on real property at assessed value — which is generally substantially less than real value — for the educational fund in 363 school districts studied by the Illinois Education Association. It shows that in more than two-thirds of the districts studied not more than a dollar out of every hundred dollars of taxable property went toward the operating expenses of public schools. It is significant to note that many of the districts where the rate is one dollar or more are unit districts, supporting high schools as well as elementary schools.

EDUCATIONAL FUND TAX RATES,* 1954



* Intervals are not even, which possibly accounts for the drop between .70-.89 and .90-.99.
† Unit districts include grades 9-12 as well as elementary.
Source: Illinois Education Association.

The reluctance of many local governments to increase the tax rates for educational funds has had two major results of economic importance. One is the lack of relative growth in teachers' salaries, which constitute over half of the school budget. This has deterred many capable people from entering the field, further causing the curtailment of special services the schools were once able to perform. In some schools the restricted services have reached into such classes as physical education, art, and music as well as into the fields of nursing and counseling. The other result of lack of funds locally is increased dependence on State and Federal grants, which many people fear will lead eventually to State rather than local control of the schools.

State Farm Census

Early in November almost 1,000 census takers literally took to the fields to begin the Illinois farm census for 1954. This study will be part of the 1954 Census of Agriculture for the United States.

The final reports will give information for states, counties, and economic areas on land ownership and tenure, land values and farm size, equipment on farms, and other matters relating to farming. Plantings, harvests, and sales will be studied for crops, and values of animals on farms and livestock and products sold will also be enumerated. Reports will be made on farm finances as well.

The 1950 farm census listed 195,268 farms in the State. The Census Bureau expects that the number will be down now both because of the trend toward larger farms and because of the urbanization of much farm land.

Water, Water Everywhere?

It is some small comfort to know that water problems are not confined to Illinois. The comfort lies in the concern and study that are being given to conservation by influential and informed persons throughout the nation. Consumption has risen to the point where each person consumes about 100 gallons a day domestically in addition to the 80 billion gallons used by industry, the 80 billion gallons used by agriculture, and the trillion gallons used each day to produce electric power throughout the nation.

Problems of water distribution were the main topic of discussion at the recent convention of the Illinois Municipal League. According to Dr. A. M. Buswell, chief of the Illinois State Water Survey, the problem is not the lack of a basic water supply, but rather the failure of local governmental units to plan for the recent large increases in consumption, both domestically and, more importantly, in business. Partial solution for the problem was given by Frank M. Pfeifer, legislative counsel for the League, and Alex Van Praag, a Decatur engineer, who urged town mayors to review water rates carefully to see if they are meeting current costs and to see if rates can be adjusted so that the town governments will be able to make the replacements and additions to equipment that the increasing consumption entails.

Recent meetings of the Illinois Agricultural Association were concerned with drouth conditions and how to meet the increasing problems. A special conference was held on water use and small watershed programs. Current legislation and proposals for future State water legislation were reviewed.

COMPARATIVE ECONOMIC DATA FOR SELECTED ILLINOIS CITIES

September, 1954

	Building Permits[1] (000)	Electric Power Consumption[2] (000 kwh)	Estimated Retail Sales[3] (000)	Department Store Sales[4]	Bank Debits[4] (000,000)	Postal Receipts[5] (000)
ILLINOIS	$29,737[a]	928,980[a]	$396,689[a]		$12,320[a]	$14,296[a]
Percentage Change from Aug., 1954	+2.1	+2.1	−18.7	+11	+0.3	+11.3
Percentage Change from Sept., 1953	+24.6	−0.3	−22.7	+3	−2.1	+4.4
NORTHERN ILLINOIS						
Chicago	$21,635	711,626	$265,532		$11,222	$12,661
Percentage Change from Aug., 1954	−0.3	+3.3	−24.8	+12	−0.4	+12.5
Percentage Change from Sept., 1953	+28.6	−1.2	−26.7	+4	−2.3	+4.2
Aurora	$ 676	n.a.	$ 6,797		$ 49	$ 116
Percentage Change from Aug., 1954	+18.2		−2.4	+3	+10.1	+10.4
Percentage Change from Sept., 1953	+271.4		−5.7	−5	+3.4	+18.5
Elgin	$ 289	n.a.	$ 5,635		$ 32	$ 114
Percentage Change from Aug., 1954	−54.4		+9.8	+15	+8.3	+22.5
Percentage Change from Sept., 1953	−36.3		+1.6	+8	+5.9	+24.0
Joliet	$ 319	n.a.	$ 9,825		$ 63	$ 86
Percentage Change from Aug., 1954	−41.3		−6.8	+7	+9.0	+6.8
Percentage Change from Sept., 1953	+5.6		−13.4	−2	+1.0	+11.3
Kankakee	$ 204	n.a.	$ 5,050		n.a.	$ 33
Percentage Change from Aug., 1954	+46.8		+0.2	n.a.		−7.6
Percentage Change from Sept., 1953	−7.3		−5.5			+5.7
Rock Island-Moline	$1,011	19,191	$ 8,728		$ 75[b]	$ 134
Percentage Change from Aug., 1954	+14.5	+6.8	−5.8	n.a.	−0.2	−17.4
Percentage Change from Sept., 1953	+7.1	+5.6	−6.8		−3.6	−16.0
Rockford	$1,600	28,728	$14,510		$ 135	$ 165
Percentage Change from Aug., 1954	+1.2	−0.8	−4.6	+6[c]	+5.0	−0.1
Percentage Change from Sept., 1953	+74.1	−8.1	−23.2	−11[c]	+3.4	+10.8
CENTRAL ILLINOIS						
Bloomington	$ 520	6,530	$ 4,991		$ 59	$ 71
Percentage Change from Aug., 1954	+14.0	−1.0	−1.8	n.a.	+12.7	+0.4
Percentage Change from Sept., 1953	+164.0	−2.9	−26.4		+0.1	−25.5
Champaign-Urbana	$ 209	8,267	$ 6,371		$ 53	$ 88
Percentage Change from Aug., 1954	+16.1	+1.4	−1.4	n.a.	+18.6	+21.2
Percentage Change from Sept., 1953	−35.5	+3.4	−3.1		−0.8	+15.4
Danville	$ 299	9,650	$ 5,582		$ 47	$ 63
Percentage Change from Aug., 1954	+298.7	+6.5	+2.2	−5	+14.7	+17.4
Percentage Change from Sept., 1953	+309.6	+11.4	−7.5	−6	+18.9	+27.0
Decatur	$ 535	23,431	$10,274		$ 100	$ 106
Percentage Change from Aug., 1954	+10.8	−4.7	+2.7	+3[c]	+22.9	−3.4
Percentage Change from Sept., 1953	+27.4	+5.2	−37.7	−1[c]	−0.5	+8.6
Galesburg	$ 374	6,771	$ 3,904		n.a.	$ 36
Percentage Change from Aug., 1954	−10.1	+1.2	−2.5	n.a.		+14.5
Percentage Change from Sept., 1953	−49.9	−0.1	−3.3			+5.5
Peoria	$ 607	46,623[c]	$15,168		$ 187	$ 208
Percentage Change from Aug., 1954	+20.9	+1.3	−0.5	+5[c]	+4.5	+1.6
Percentage Change from Sept., 1953	−49.3	+2.2	−11.0	−2[c]	−5.2	+0.5
Quincy	$ 497	8,184	$ 4,512		$ 35	$ 62
Percentage Change from Aug., 1954	+165.8	−11.0	−1.4	−1	+1.8	−11.9
Percentage Change from Sept., 1953	+214.6	+11.9	−2.6	+4	+1.4	+6.3
Springfield	$ 246	28,561[c]	$12,045		$ 99	$ 209
Percentage Change from Aug., 1954	−3.9	−6.7	−7.3	n.a.	+5.0	+2.9
Percentage Change from Sept., 1953	−57.4	+9.3	−3.3		+0.8	+3.1
SOUTHERN ILLINOIS						
East St. Louis	$ 114	12,754	$ 8,907		$ 130	$ 78
Percentage Change from Aug., 1954	−8.1	−6.0	−3.8	n.a.	+3.6	+20.8
Percentage Change from Sept., 1953	+37.3	−8.7	−7.0		−2.0	+36.4
Alton	$ 538	12,142	$ 4,486		$ 34	$ 29
Percentage Change from Aug., 1954	+367.8	−6.9	−6.0	n.a.	+0.3	+9.8
Percentage Change from Sept., 1953	+263.5	+3.6	−12.1		−5.3	+9.2
Belleville	$ 64	6,519	$ 4,372		n.a.	$ 40
Percentage Change from Aug., 1954	−77.5	−2.3	−4.2	n.a.		−6.1
Percentage Change from Sept., 1953	−29.7	+19.4	−2.9			+15.5

[a] Total for cities listed. [b] Includes East Moline. [c] Includes immediately surrounding territory. n.a. Not available.

Sources: [1] U. S. Bureau of Labor Statistics. Data include Federal construction projects. [2] Local power companies. [3] Illinois Department of Revenue. Data are for August, 1954, the most recent available. Comparisons relate to July, 1954, and August, 1953. [4] Research Departments of Federal Reserve Banks in Seventh (Chicago) and Eighth (St. Louis) Districts. Department store sales percentages rounded by original sources. [5] Local post office reports.

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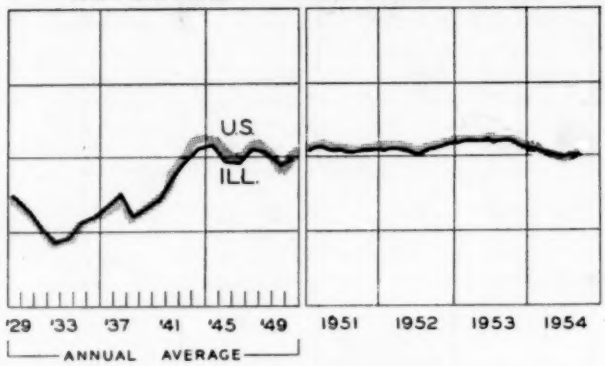
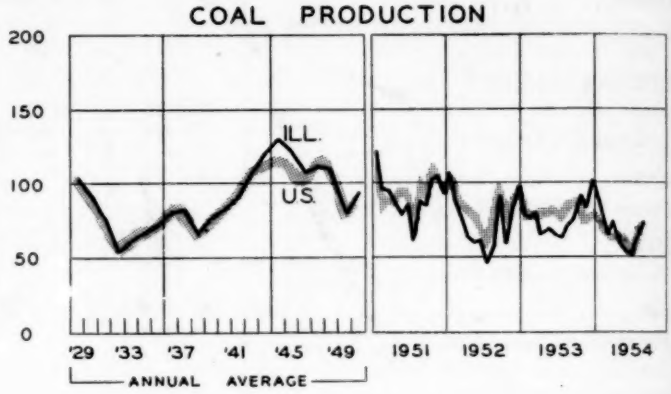
INDEXES OF BUSINESS ACTIVITY

1947-1949 = 100

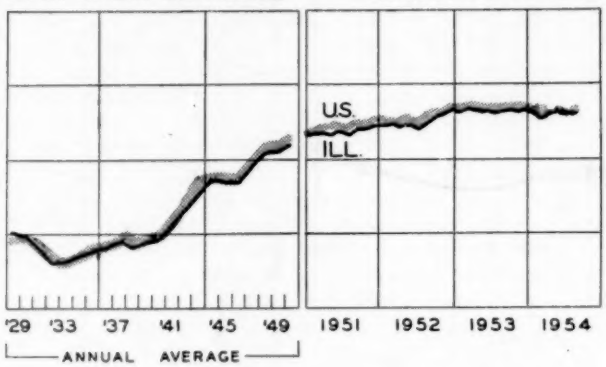
EMPLOYMENT - MANUFACTURING



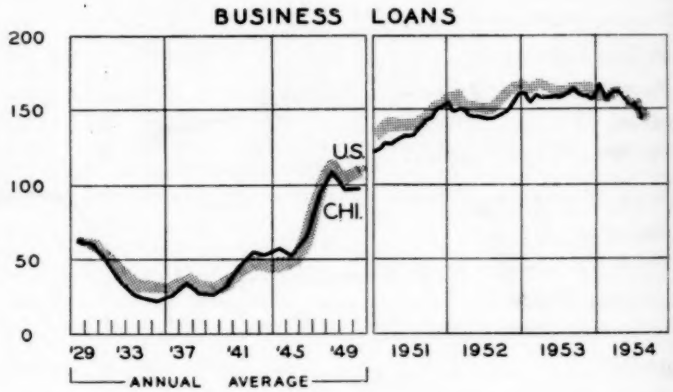
COAL PRODUCTION



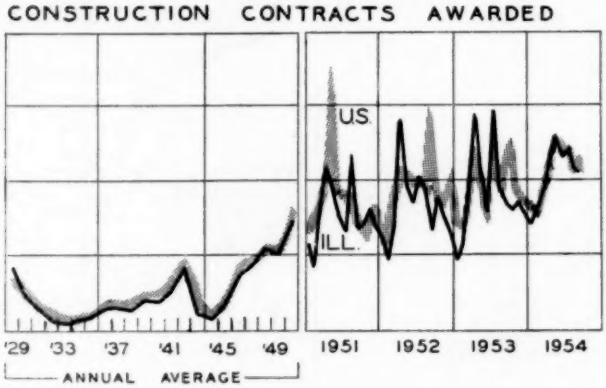
AVG. WKLY. EARNINGS — MANUFACTURING



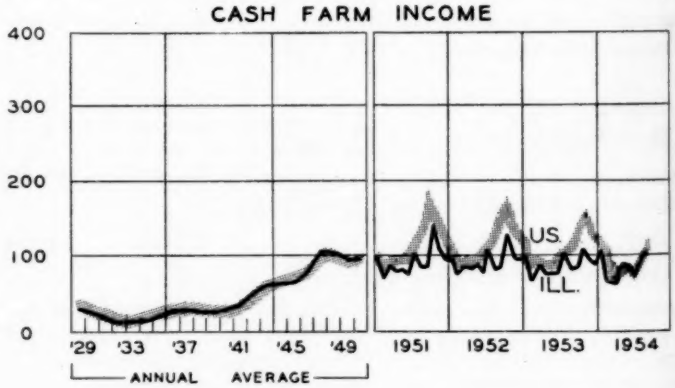
BUSINESS LOANS



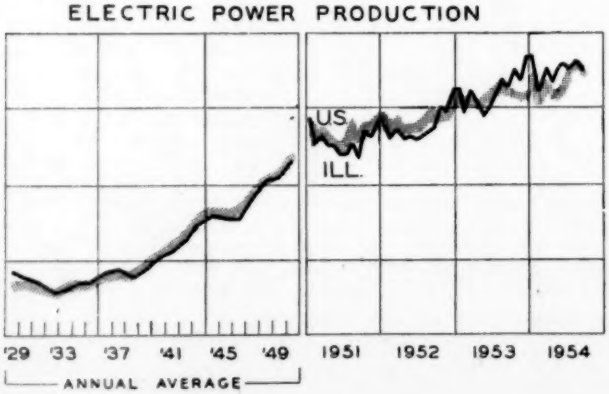
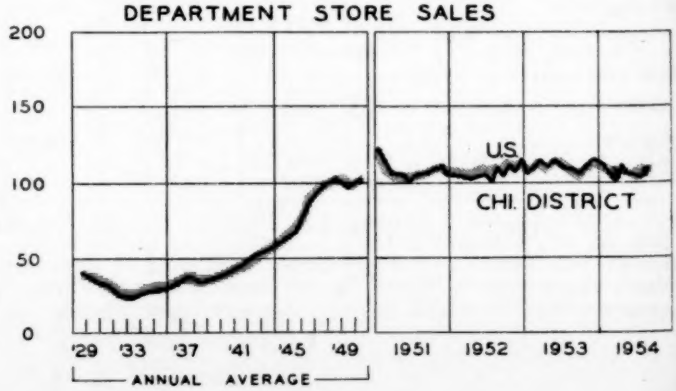
CONSTRUCTION CONTRACTS AWARDED



CASH FARM INCOME



ELECTRIC POWER PRODUCTION



DEPARTMENT STORE SALES